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IMPACT OF STALIN'S STAND ON PHILOLOGY FELT IN GEOLOGICAL SCIENCES

A real need is felt in the geological sciences, i.e., stratigraphy, tectonics, petrography, lithology, mineralogy, geochemistry, metallogeny, etc., no less than in philology and physiology, for the use of the correct Marxist methodology and free discussion of the status of these sciences.

The different geological sciences, naturally enough, have their worthy authorities, their progressive trends, their special schools, etc. However, it is a great misfortune that some of our schools and trends live and work in isolation, are closed off or develop without consideration for the accomplishments of other schools. As a result, an unhealthy combination of circumstances, i.e., distortion of the scientific perspective, absence of criticism and self-criticism, etc., is created, which hinders the development of scientific theory and prevents rapid solution of a number of practical economic problems. Such clearly abnormal relationships are observed between some scientific collectiv associations of lithologists, petrographers, vulcanol gists, and others.

Our geologists have not always been distinguished by their modesty; arrogance, vanity, and a clearly emphasized consciousness of their past excellence distinguishes some of our comrades, who value only themselves, their ideas, and their service to science. This arrogance, of course, harms both science and the scientist himself; he frequently lives in the past and is detached from real contemporary progress in science.

Further, we see among our geologists some who give all their attention to facts, while others disregard facts and thus fail to support their theories sufficiently. The creative use of Marxist-Len nist dialectics for the understanding and explanation of geological effects and processes undoubtedly requires accurate support of theory by proven facts and checking of these theories in practice; but, at the same time, it should be remembered that the sweeping, fundamental work, which is often lost in the collection and description of facts, can prove fruitful only when the scientist strives for a clear goal, namely, establishment of regularities and creation of a progressive theory.

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An example of such an abnormal situation is the work on two different methods of lithology and sedimentary petrography now being conducted at the Insitute of Geological Sciences, Academy of Sciences USSR. One school is headed by Professor L. V. Pustovalov and the other by N. M. Strakhov, Corresponding Member, Academy of Sciences USSR.

The theory and systematics of sedimentary rocks constructed by Pustovalov had a positive effect upon science by arousing the interest of researchers to the development of theoretical problems in lithology. However, this theory was criticized in a number of papers published in periodicals and at some scientific conferences, and it became clear that Pustovalov had not sufficiently supported his conclusions with facts.

Strakhov's works, on the other hand, clearly show overevaluation of emperical data in the construction of scientific generalizations. Strakhov based his works upon the detailed study of contemporary processes of sedimentary rock accumulation, the medium in which it takes place, and compared these processes and their results with the results of studying ancient sedimentary rocks. Unfortunately, this was done without sufficient consideration for the evolutionary characteristics of the physicogeographical background of the geological past.

Despite these facts, both Pustovalov and Strakhov heatedly insist on the infallibility of their positions.

An unhealthy fear of self-criticism and stubbornness in defending erroneous ideas is also characteristic of specialists in other geological sciences.

An important defect in the studies of our petrographers and specialists in the field of ore deposits is the lack of attention to generalizing works on the theory of ore formation, the study of the genesis and composition of various petrographic complexes, and also studies revealing the incorrect metaphysical concepts of foreign geologists.

Thus the principles of the existing theory of ore-deposit formation, developed by the foreign scientists Lindgren, Emmons, and Grayton, have long been refuted by the practice of Soviet geologists, but our specialists have just started to develop a new theory on ore deposits. This has an adverse effect upon practical work in exploration and prospecting for ore deposits.

The viewpoint held by some of our leading petrographers that the main problem of petrography at present is not the development of theory, but greater attention to the description of facts, is erroneous. Of course, collection and accurate description of facts is a necessary condition for productive scientific work, but we cannot admit that this is an end in itself.

In the work of our scientific research geological institutions, the necessary attention is still not given to experimentation because it is incorrectly maintained that the latter is not directly applicable to very complex natural processes or the geological past. Neither is proper use made of the accomplishments of allied sciences, particularly physical chemistry and geophysics.

Academicians V. I. Vernadskiy and A. Ye. Fersman are rightly considered the creators of Soviet geochemistry and mineralogy, but recently their students and followers have done only little work in developing these important divisions of geology. The situation is also far from satisfactory in the development of a general theory of the earth's crust and in the preparation of important theoretical generalizations in many other geological subjects.

In many scientific works by geologists, there are numerous erroneous theoretical concepts and scientific work in most branches of geology still lags behind the practical requirements.

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For example, we in geology have long been dominated by absolutely harmful theories (e.g., M. M. Tetyayev's overthrust tectonics, K. P. Kalitskiy's petroleum geology, and Ya. S. Edel'shteyn's and M. P. Rusakov's geology and mineral fuels series of Siberia, Kazakhstan, and other regions) which sidetracked the development of exploration and prospecting works and caused great damage to the economy. These mistaken theories have already been refuted in practice, but have not yet been demolished from the theoretical standpoint.

The development of geological sciences has been hindered in a number of cases by organization-administration measures enforced by directors of the various scientific research institutions. For example, an extremely heavy, stale conservatism existed for a long time in the Institute of Geological Sciences, Academy of Sciences USSR; an Arakcheyev regime hostile to science prevailed, scientific criticism was not permitted, a considerable part of the scientific forces was detached from practical problems of the socialist structure, and there were attempts to retard the development of a number of important branches of science, such as geochemistry, mineralogy, technical petrography, and others.

The initiative of individual workers in setting up current problems (e.g., the study of the metallogeny of the Polar Urals and Malka alloyed ores) was stifled. The dangerous idea was cultivated that academic workers should not concern themselves with geological practice, i.e., they should be concerned only with scientific generalizations and high theory on the basis of the practical activity of other organizations of the geological service. Thus, there was an artificial separation of a unified research process which was very harmful to all our work. Some of our scientists still cling to a circle of very specialized problems, work little on generalizing conclusions, and are not closely enough connected with the most important economic tasks.

Moreover, we note that our scientific workers do not always formulate their scientific ideas clearly. Some betray their native writing ability by using foreign terminology and often make their statements unintelligible even for the average geologist. Thus, scientific articles do not achieve their purpose, i.e., they do not reach the circles for which they are intended. The writings of Stalin on problems of philology should serve as a model of maximum expressiveness since they employ simple and clear language.

The measures necessary to improve the situation in the geological sciences should be determined in the light of the above. A free, extensive discussion of the status of our most important subjects must be organized in the very near future. This will entail conferences of scientists with production workers to discuss such problems. Discussions at these conferences must be published widely.

An extensive discussion of the science of lithology and sedimentary petrography has already been opened in issue No 4 of Izvestiya Akademii Nauk SSSR, Seriya Ge[illegible]ogicheskaya, by publication of the controversial articles of L. V. Pustovalov and N. M. Strakhov. These articles should create a wide response and help to throw more light upon the important problems of the theory and practice of the science of sedimentary rocks, from the standpoint of bringing it as close as possible to the demands of the economy.

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A number of conferences are also planned in other branches of geology: the mineralogy of ore deposits, geochemistry, tectonics, etc.

By developing theoretical studies on the basic problems of geological sciences and strengthening the most progressive scientific schools, geologists of our country should create scientific bases for seeking the most important forms of mineral resources and provide for further study of the lands of the Soviet

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Union, particularly the regions of Siberia, the Far East, the Urals, and Central Asia. At the same time, we must intensify our activity in the study of the historical development of Russian and Soviet geology and encourage criticism of pseudoscientific works by foreign and native scientists.

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